

Name: _____

CC2, Class 5, ElShakhs

Weekly Math Homework Packet 03-17 to 03-24

Please have this homework sheet out next to your homework at the beginning of the period.

Homework Effort Score				Assign Date	Due Date	Section	Classwork	Homework
100%	75%	50%	Missing					
				Mon 3/17	Tues 3/18	6.2.3	Practice, 6-78, 6-90	6-88, practice Problems
				Tues 3/18	Wed 3/19	6.2.5	6-106, 108, 109	6-98, 6-100 to 6-102
				Wed 3/19	Fri 3/21	6.2.6	6-116, 118, 119	6- 110, 112, practice Problems
				Fri 3/21	Mon 3/24	6.2.6	6-124, 125, 127	6-122, 123, 126

Remember – Homework help available at www.cpm.org

Monday Classwork:

From 6-64: Simplify in the space below, showing each step in proper format. You should use equations mats to build these expressions. Check your answer by plugging it back in using the second columns.

$-1 + 2x - x$	=	$x - 8 + (-x)$

$-1 + 2(\quad) - (\quad)$	=	$(\quad) - 8 + (- \quad)$

$9 - 3x$	$=$	$1 + x$
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$9 - 3(\quad)$	$=$	$1 + (\quad)$
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$3x + 3 - x + 2$	$=$	$x + 5$
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$3(\quad) + 3 - (\quad) + 2$	$=$	$(\quad) + 5$
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- **6-78.** Maggie's mom agrees to let Maggie buy small gifts for some of her friends. Each gift costs \$4. Maggie's mom gave her a budget of \$19. When Maggie went online to order the gifts, she discovered there was a \$7 shipping fee no matter how many gifts she bought.
 - a. Use arithmetic (without variables) to determine how many gifts Maggie can buy. Record your steps.
 - b. Write an algebraic equation to determine how many gifts Madison can buy with \$19, and solve your equation. Record your steps.
 - c. Compare and contrast the two methods of solving the problem.

- **6-90.** Evaluate the expression $10 - 2x$ for the x -values given below. Show all work

a. $x = 2$

b. $x = \frac{1}{2}$

c. $x = -2$

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Monday Homework

Solve each equation.

$6x = 18$ $x = 3$	$4s = 24$	$5x = 30$	$9b = 72$
$4y = 8$	$5x = 25$	$3x = -12$	$5s = 0$
$6t = 6$	$-4n = -20$	$8c = -8$	$-10e = -30$
$-7x = -21$	$-2x = 10$	$20x = 80$	$-7m = 7$

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- **6-88.** Simplify each expression.

$\frac{73}{100} \cdot \left(-\frac{2}{7}\right)$	$0.4 \cdot 0.3$
$-\frac{63}{80} + \frac{7}{10}$	$5\frac{1}{9} + 8\frac{2}{5}$
$-\frac{9}{17} - \frac{1}{2}$	$-1.2 + \left(-\frac{3}{5}\right)$

Tuesday Classwork

- **6-106.** A triangle has a base that is three times longer than its height. It has an area of 486 sq cm. Use the 5-D Process to find the base and height of the triangle. Write a variable expression for each column of your table.

<u>Draw / Describe:</u>					
<u>Define:</u>				<u>Do:</u>	<u>Decide:</u>
Trial 1					
Trial 2					
Trial 3					
<u>Declare:</u>					

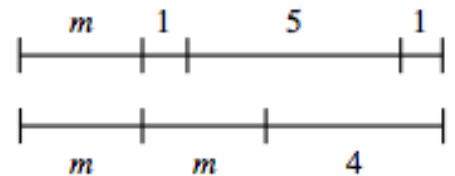
- **6-107.** Kandi has a bag of marbles. She has 5 black, 3 white, 2 green, and 4 orange marbles. Kandi reaches into the bag without looking and pulls out a marble.
 - a. What is the probability that she will pull out a green marble?
 - b. If she does get a green marble and does not put it back in the bag, what is the probability that she will now pull the other green marble from the bag?
 - c. Assume that Kandi does get the second green marble and does not return it to the bag. What is the probability that she will now pull another green marble from the bag?
- **6-108.** Which of the equations below represent proportional relationships? If the relationship is proportional, identify the constant of proportionality. If the relationship is not proportional, explain why.

a. $y = \frac{3}{4}x + 2$

b. $y = \left(4\frac{2}{3}\right)x$

c. $y = 3(x - 1)$

- **6-109.** The diagram at right represents an acrobat's sequence on a tightrope, where m represents the distance in feet that she covers each time she does a leap.



- a. How long is each of her leaps? How can you tell?
- b. Write and solve an equation to find the length of each leap.
- c. How long is the tightrope?

Tuesday Homework

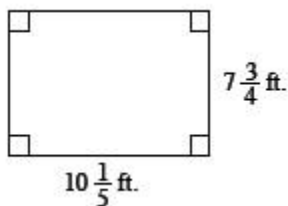
- **6-98.** Consider the equation $7 = 3x - 5$.
 - Stanley wants to start solving the equation by adding 5 to both sides, while Terrence first wants to subtract 7 from both sides. Will both strategies work? Is one strategy more efficient than the other?
 - Solve $7 = 3x - 5$. Show your steps. Check your answer in the second grid.

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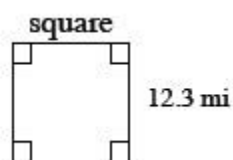
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a.

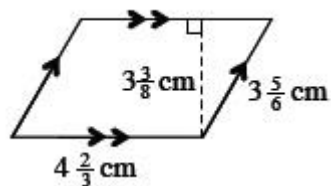
- **6-100.** Find the area and perimeter of the following figures. [Help \(Html5\)](#) ⇔ [Help \(Java\)](#)



a.

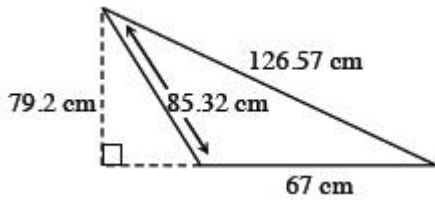


b.



c.

(Area = $b \times h$)



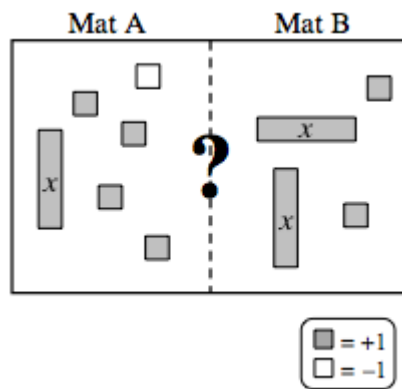
d. (height = 79.2 cm, Area = $\frac{1}{2} b \times h$)

- **6-101.** Factor each expression by writing it as a product instead of a sum.

a. $90k - 60 = 30(\quad)$

b. $30d^2 - 18d = 3d(\quad)$

- **6-102.** Write an expression for each mat below. [6-102 HW eTool](#) (CPM).



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a. Simplify each mat to determine which expression is greater, if possible.

b. If $x = 3$, would your answer to part (a) change? Explain.

c. If $x = -2$, would your answer change? Explain.

Wednesday Classwork

- What if both sides are not equal?
- Are there many values of x that will make the expressions equal?
- Is there always a solution?
- **6-116.** Many students believe that every equation has only one solution. However, in the introduction to this lesson you might have noticed that if Annika was four years older than her brother, William, they could never be the same age. Some situations have one solution, others have no solution, and still others have all numbers as solutions.
- For each of the following equations, reason with your team to decide if there is **“One solution,” “No solution,” or “All numbers are solutions.”** If there is a single number solution, write it down. If you are not sure how many solutions there are, have each member of your team try a number to see if you can find a value that makes the equation work.



$x = x$	$x + 1 = x$
$x = 2x$	$x + x = 2 + x$
$x + x = x - x$	$x + x = 2x$
$x \cdot x = x^2$	$x - 1 = x$

- **6-118. SPECIAL CASES, Part One**
- Use the equation $8 + x + (-5) = (-4) + x + 7$ to complete parts (a) through (c).
 - Build the equation on your Equation Mat using [algebra tiles](#) and simplify it as much as possible. Record your steps and what you see when you have simplified the equation fully. Draw a picture of your final mat.

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- b. Have each member of your team test a different value for x in the original equation, such as $x = 0$, $x = 1$, $x = -5$, $x = 10$, etc. What happens in each case?
- c. Are there any solutions to this equation? If so, how many?

• **6-119. SPECIAL CASES, Part Two**

- Use the equation $x + x + 2 = 2x$ to complete parts (a) through (c).
- a. Build the equation on your Equation Mat using [algebra tiles](#) and simplify it as much as possible. Record your steps and what you see when you have simplified the equation fully. Draw a picture of your final mat.

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- b. Have each member of your team test a different value for x in the equation, such as $x = 0$, $x = 1$, $x = -5$, $x = 10$, etc. What happens? Is there a pattern to the results you get from the equation?
- c. Did you find any values for x that satisfied the equation in part (a)? When there is an imbalance of units left on the mat (such as $2 = 0$), what does this mean? Is $x = 0$ a solution to the equation?

Wednesday Homework

- **6-110.** Solve the following equations using any method. Show your work and check your solution.

a. $3x + 10 = 25$

b. $5(x - 2) = 30$

c. $2x - 9 = x + 7$

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- **6-112.** Evaluate the following expressions. [Help \(Html5\)](#) \Leftrightarrow [Help \(Java\)](#)

a. $7x + 8$ when $x = 9$

b. $6(y - 11)$ when $y = -6$

c. $45 - 5m + 7$ when $m = -4$

d. $-2t + 9$ when $t = -20$

Here are some equations for you to solve. Each problem takes two steps.
First simplify the equation by combining like terms. Then find the solution.

$5x + 2x = -21$ $7x = -21$ $x = -3$	$2x + 3x = 30$	$3x + 3x = -24$	$5x + 5x = -70$
$4x + 5x = 18$	$7x - 3x = -12$	$8x - 14x = 60$	$3x + x = 36$

Friday Classwork

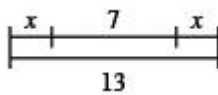
- **6-124.** Some steps in solving an equation are more efficient than others. Complete parts (a) through (d) to determine the most efficient first step to solve the equation

$$34 = 5x - 21.$$

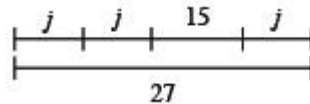
- a. If both sides of the equation were divided by 5, then the equation would be $\frac{34}{5} = x - \frac{21}{5}$. Does this make the problem simpler? Why or why not?
 - b. If you subtract 34 from both sides, the equation becomes $0 = 5x - 55$. Does this make the equation simpler to solve? Why or why not?
 - c. If you add 21 to both sides, the equation become $55 = 5x$. Does this suggestion make this a problem you can solve more easily? Why or why not?
 - d. All three suggestions are legal moves, but which method will lead to the most efficient solution? Why?
- **6-125.** Alex has a job delivering newspapers. He puts 20% of his earnings each week into his college savings account. Each week he puts \$16 into the account.
 - a. Draw a diagram to represent this situation.
How much money does Alex earn each week?
 - b. Alex spends 10% of his earnings on snacks each week. How much does he spend?
 - c. When Alex has worked for one year, he will get a raise that is equal to 15% of his current earnings. How much more money will he earn each week?

- **6-127.** Each of the diagrams below represents a sequence for an acrobat on a tightrope. Each letter represents the unknown length of a trick. For each part below, **write and solve an equation to figure out how far the acrobat travels during each trick (that is, the length represented by each letter).** Show how you know your answer is correct.

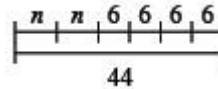
a. Find x .



b. Find j .



c. Find n .



Friday Homework

Here are some equations with parentheses for you to solve. First simplify each side of the equation. Then the rest will be easy.

$3(5x - 3x) + 5 = 47$ $3(2x) + 5 = 47$ $6x + 5 = 47$ $\underline{-5 \quad -5}$ $6x = 42$ $\underline{\quad 6 \quad 6}$ $x = 7$	$2(7x - 3x) + 4 = 28$	$3(2x + 2x) = 35 + 5x$
$16(x - 1) = 12x + 36$	$6x + 2(x + 7) = 46$	$4x + 18 = 7(x + 3)$

- **6-126.** Factor each expression below.

a. $16x - 4$

b. $-10x + 5x^2$

c. $30y - 24x$

- **6-122.** Simplify and solve each equation below for x . Show your work and record your final answer.

a. $24 + 2x = 3x + 2(3 \cdot 4)$

b. $2(12 + x) = 2x + 24$

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- **6-123.** Show the “check” for each of these problems and write whether the solution is correct or incorrect.

a. For $3x + 2 = x - 2$, does $x = 0$?

b. For $3(x - 2) = 30 + x - 2 - x + 2$, does $x = 12$?